

Client 1

Network

Repository Data Server 2

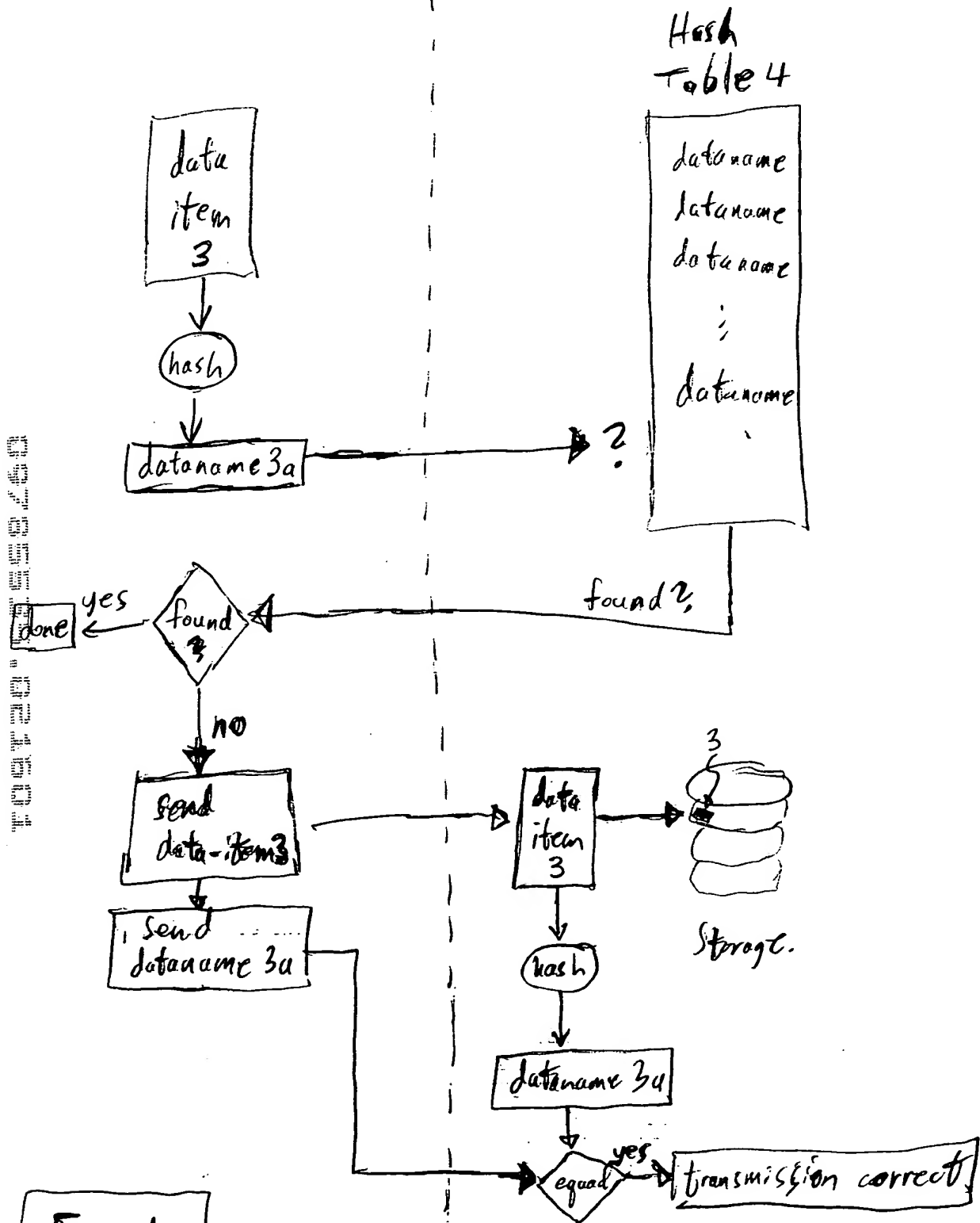


Figure 1

Client 1 (initiator)

Network

Repository Data - Server 2

Create access  
authorization  
credential 3b  
for data-item 3

request access  
(dataname 3a)

Ask for proof  
that client has  
data-item 3

Data-item 3

compute  
proof

dataproof 3c

request proof  
(data-item 3)

Data-item 3

compute  
proof

dataproof 3e

Compare  
proofs

Same  
?

yes

Add to database

named-object 3d | dataname 3a

Named-object database 6

named object 10 | dataname 3a

named object 12 | dataname 13

⋮

Figure 2

Client 5 (read)

Repository Data - Server 2

Access Authorization Credential 36

Network

read request

Translate credential into object name

named object 3d

Named-object database 6

named object 10 | dataname 3a

named object 12 | dataname 13

named object 3d | dataname 3a

dataname 3a

3 storage

return data-item

data-item 3

Figure 3

USE

REPOSITORY

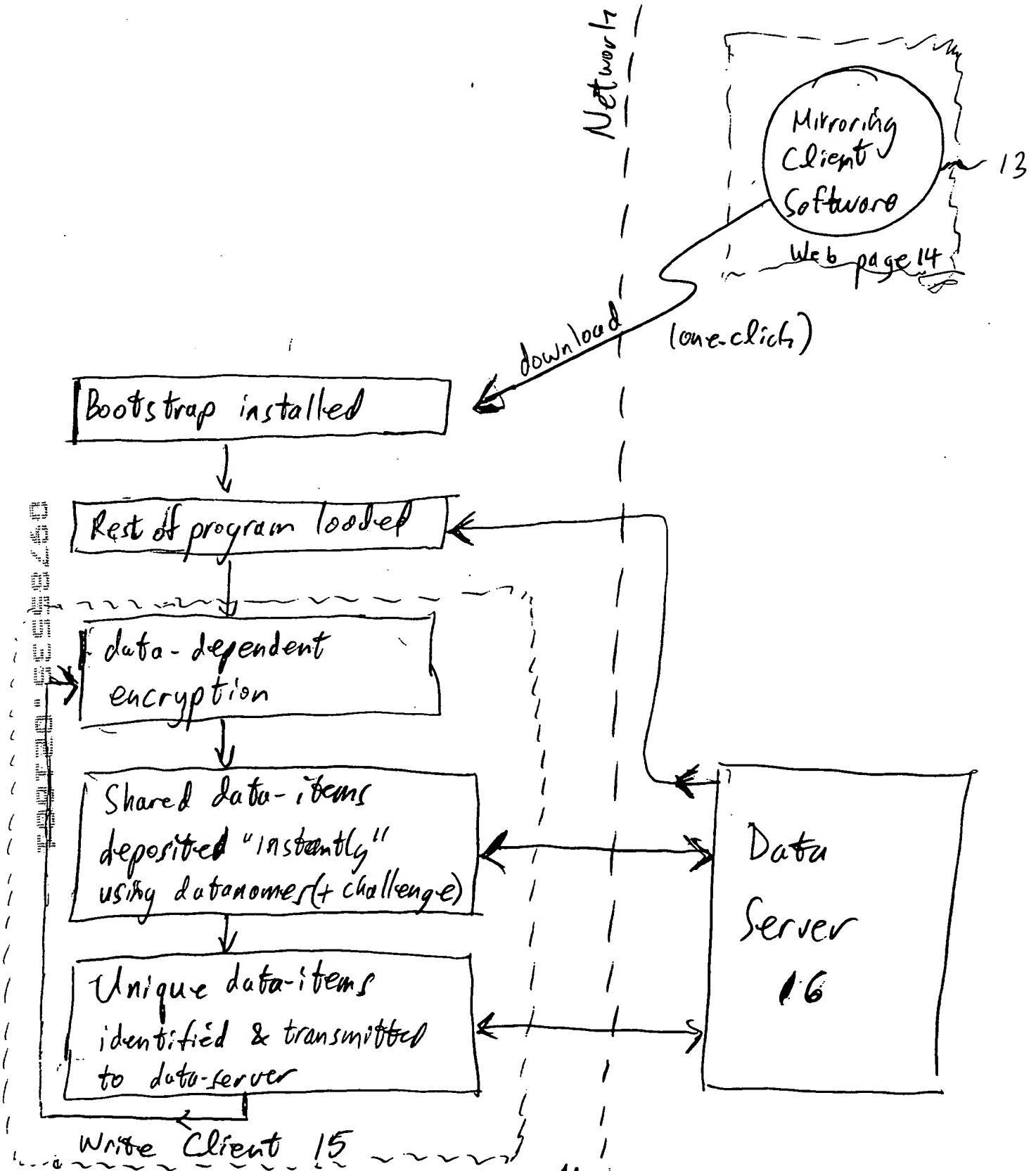


Figure 4

FIGURE 5

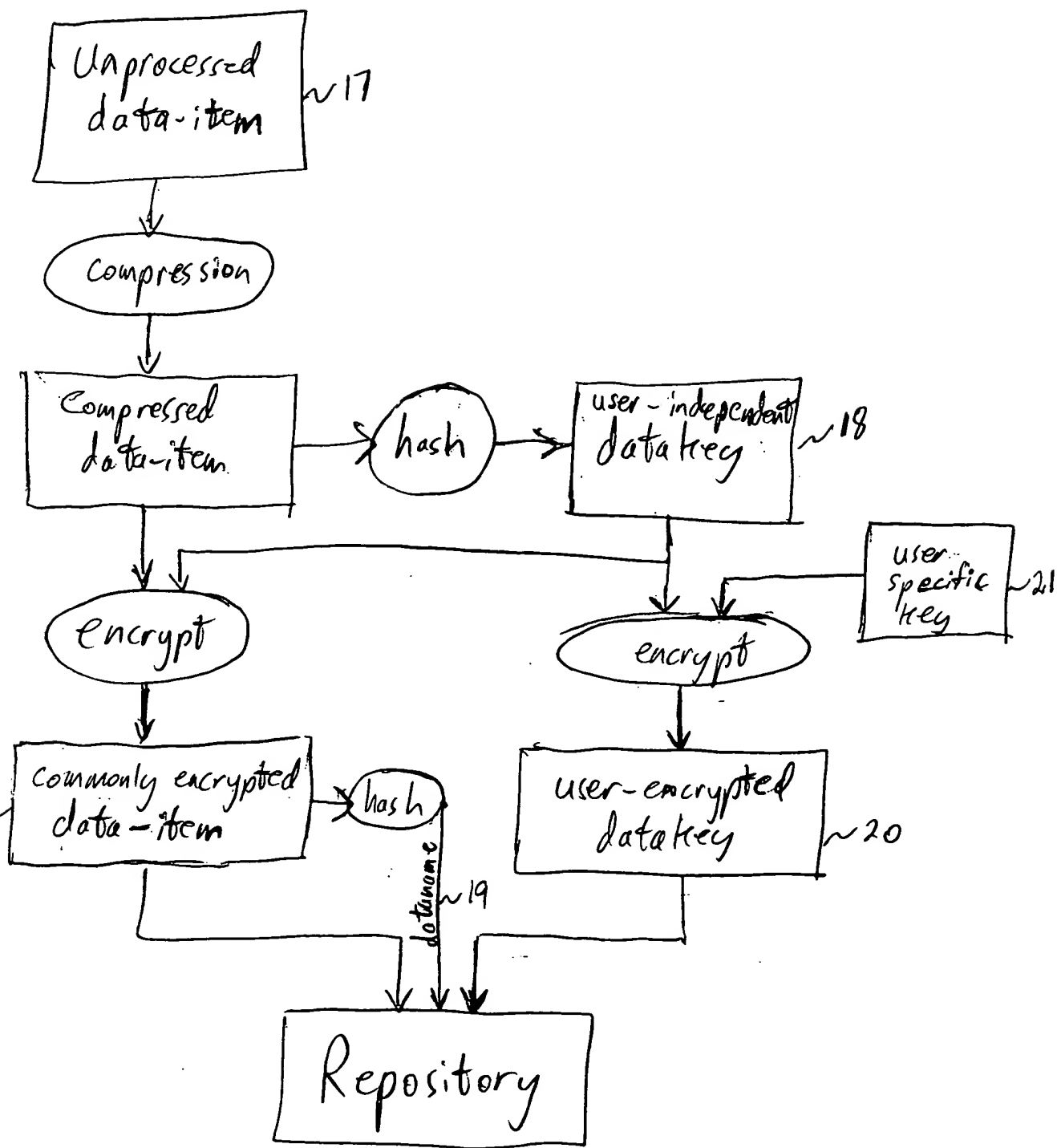


Figure 5

USER

REPOSITORY

Not

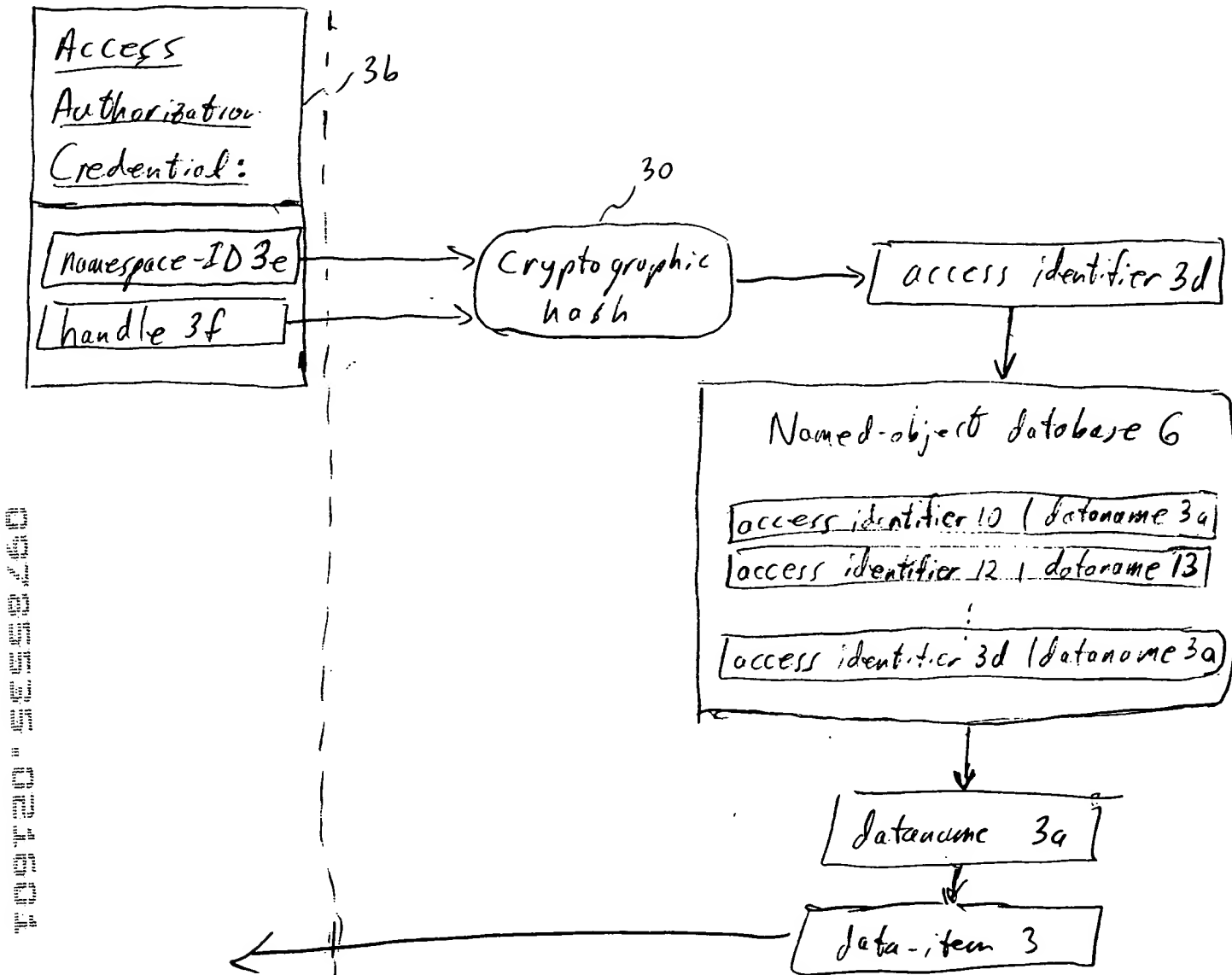


Figure 6.

USER

Repository  
Data-Server 47

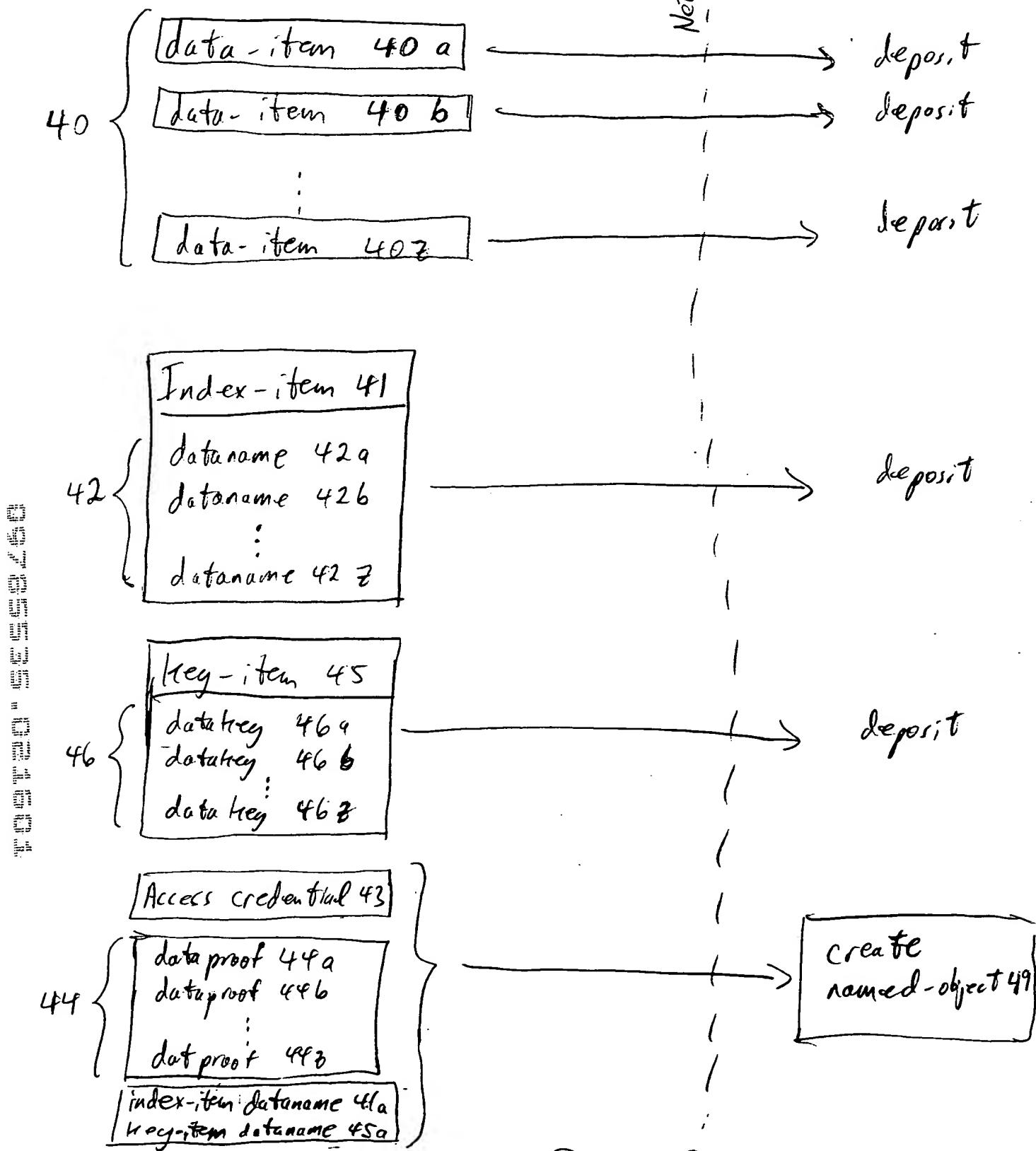


Figure 7.

USER ●

Repository ●

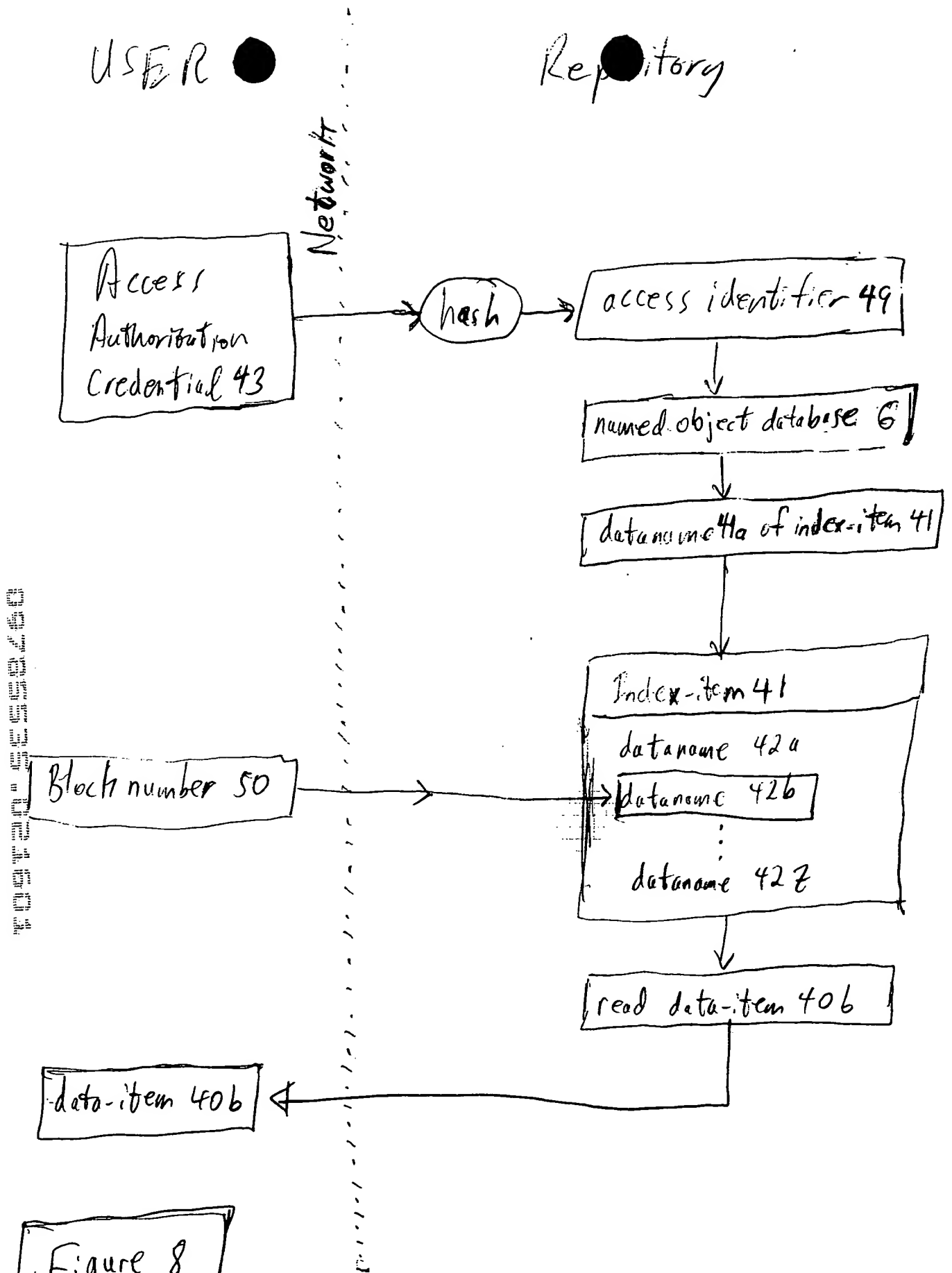


Figure 8



Client (write) 56

Repository Server

Network

occurs  
authorization  
credentials 62b

data item 62a

58  
Named  
object

old

new

data item 60  
(reference count  
= 0)

data item 62

Storage

Figure 9.

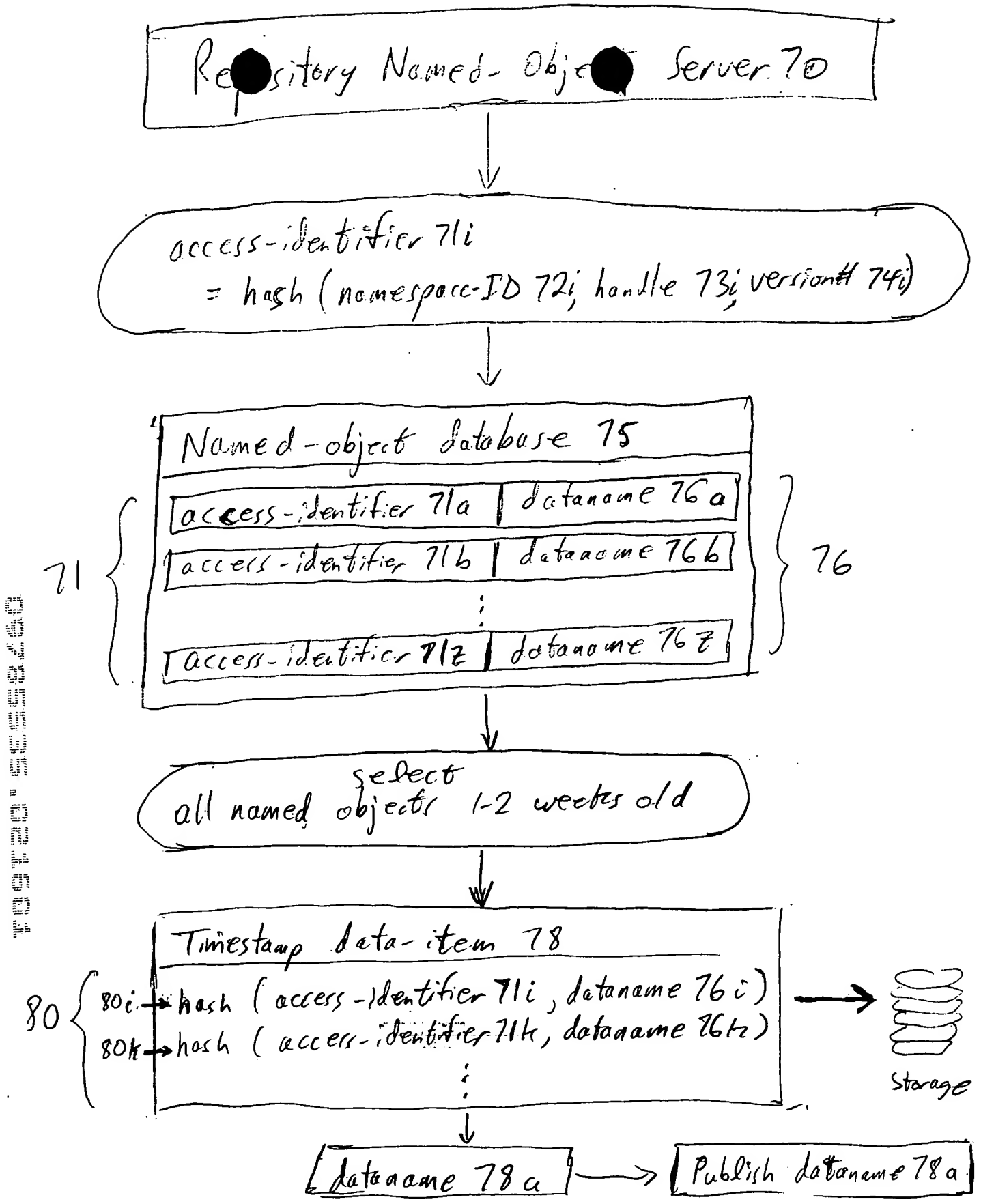
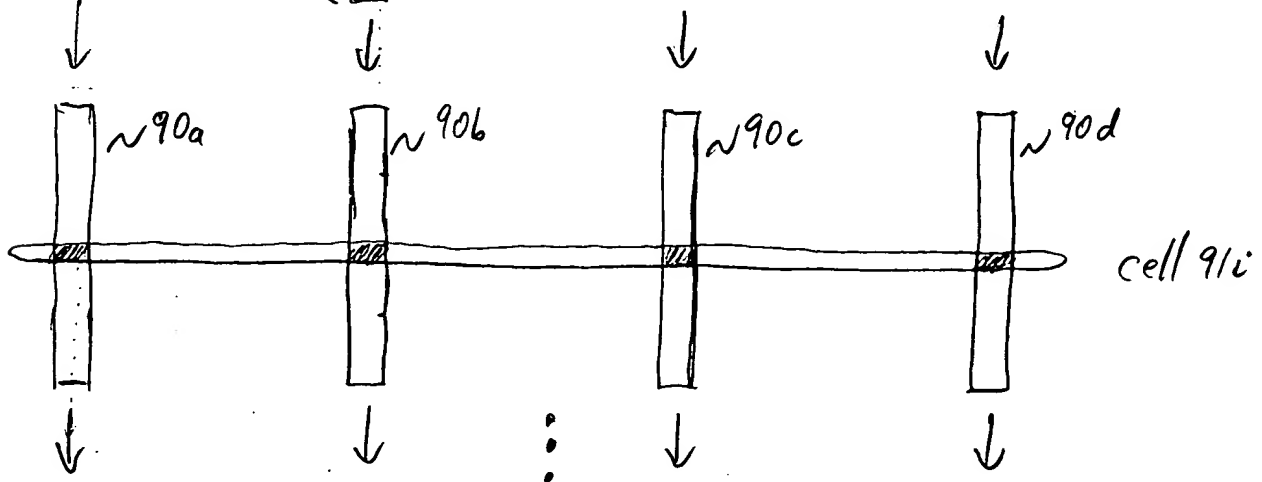
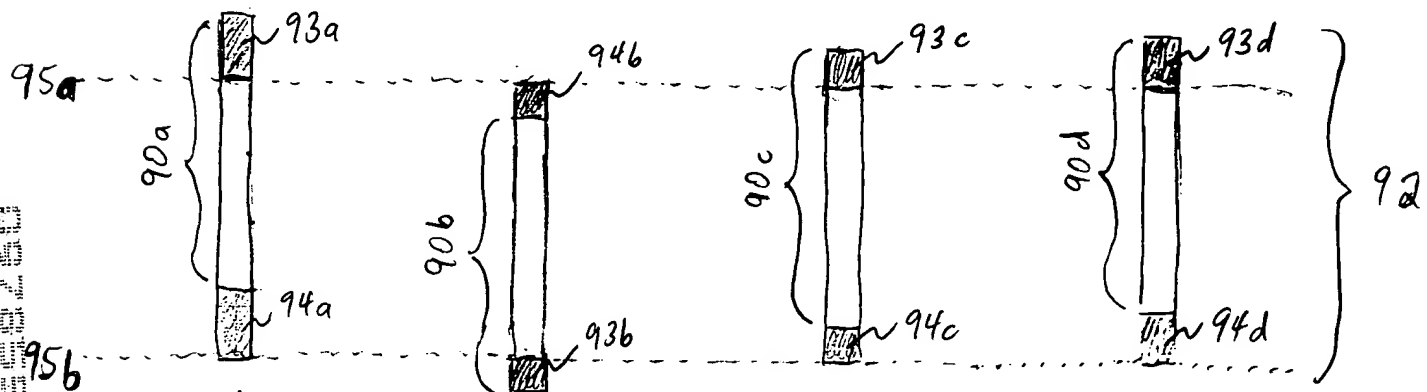
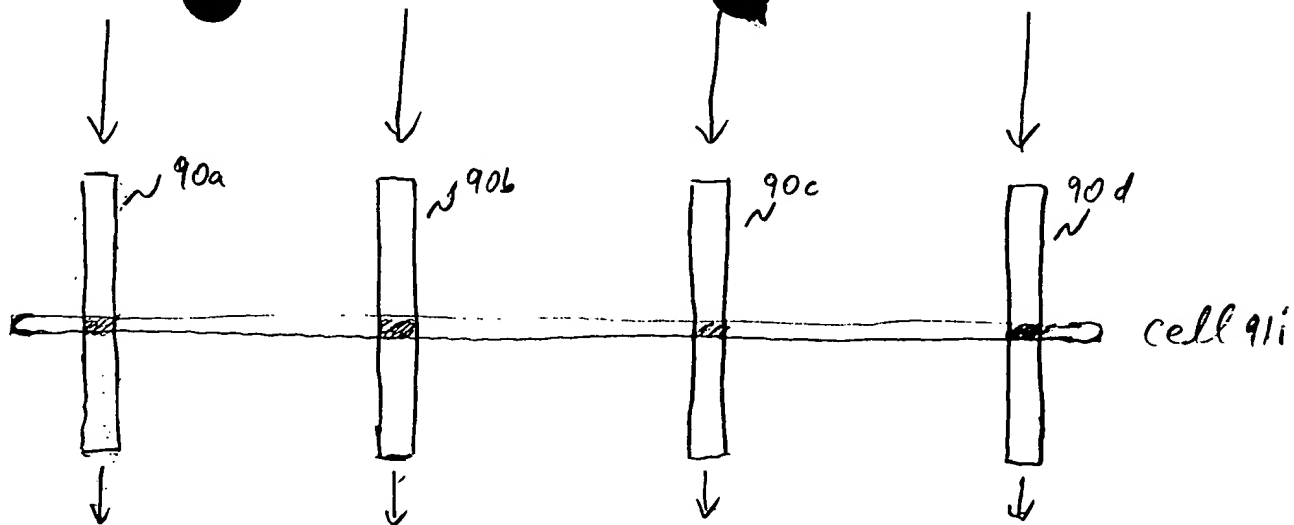


Figure 10

# Bit - String 90

bit-field 90a | bit-field 90b | bit-field 90c | bit-field 90d



key 99:

shift amount | shift amount | shift amount | shift amount | perm# ...  
99a 99b 99c 99d 99e

Fig. 11